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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/884,283      | 06/19/2001  | John Gural           | APP 1396-US         | 3899             |

7590 09/29/2004

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| EXAMINER |
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SINES, BRIAN J

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| ART UNIT | PAPER NUMBER |
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1743

DATE MAILED: 09/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/884,283

Applicant(s)

GURAL ET AL.

Examiner

Brian J. Sines

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 6/7/2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-4 is/are allowed.
- 6) ☒ Claim(s) 1 and 5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

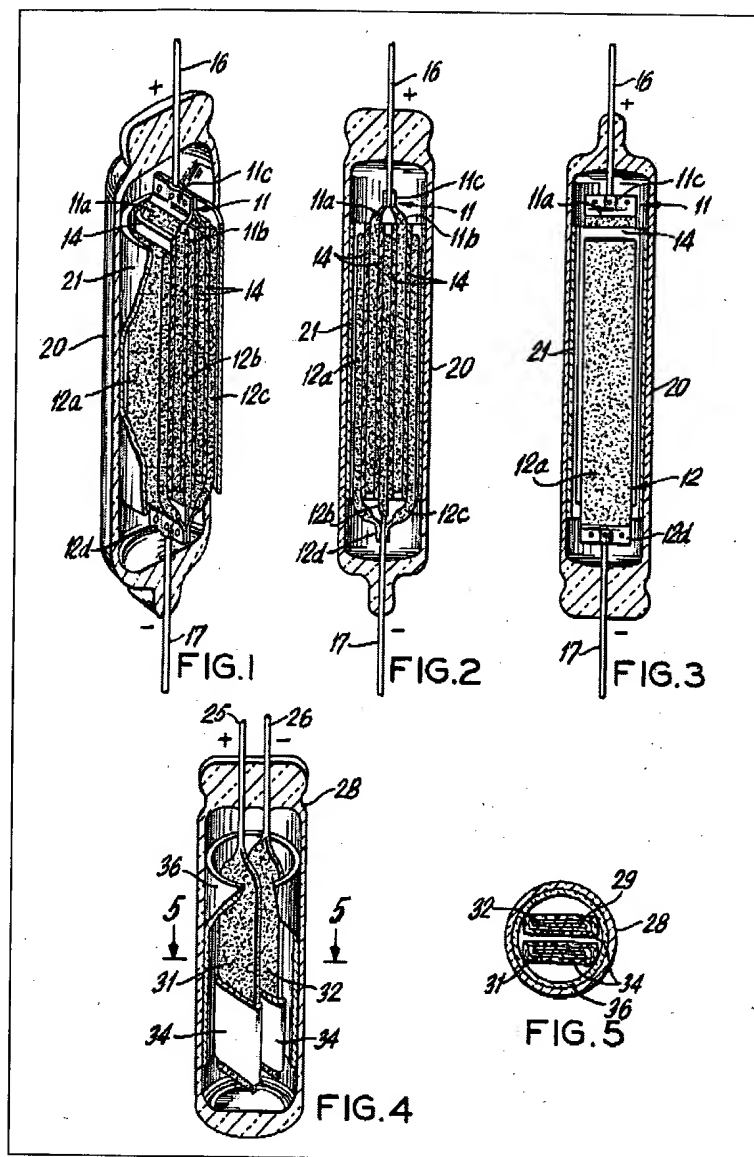
### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Sugalski (U.S. Pat. No. 4,186,246). Sugalski teaches a hermetically sealed electrochemical storage cell apparatus. The apparatus comprises a means (glass casing 20) hermetically enclosing combined anode and cathode electrodes (11 & 12), a separator (14) and electrolyte cell components (e.g., cell terminal conductors 16 & 17, electrolytic liquid comprising KOH or electrolyte barrier wrapping 21) in isolation from ambient atmosphere, wherein the enclosing means (20) comprises essentially an integral x-ray transmissive glass window (see col. 1, lines 1 – 68; col. 4, lines 1 – 65; figures 1 – 5).



***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

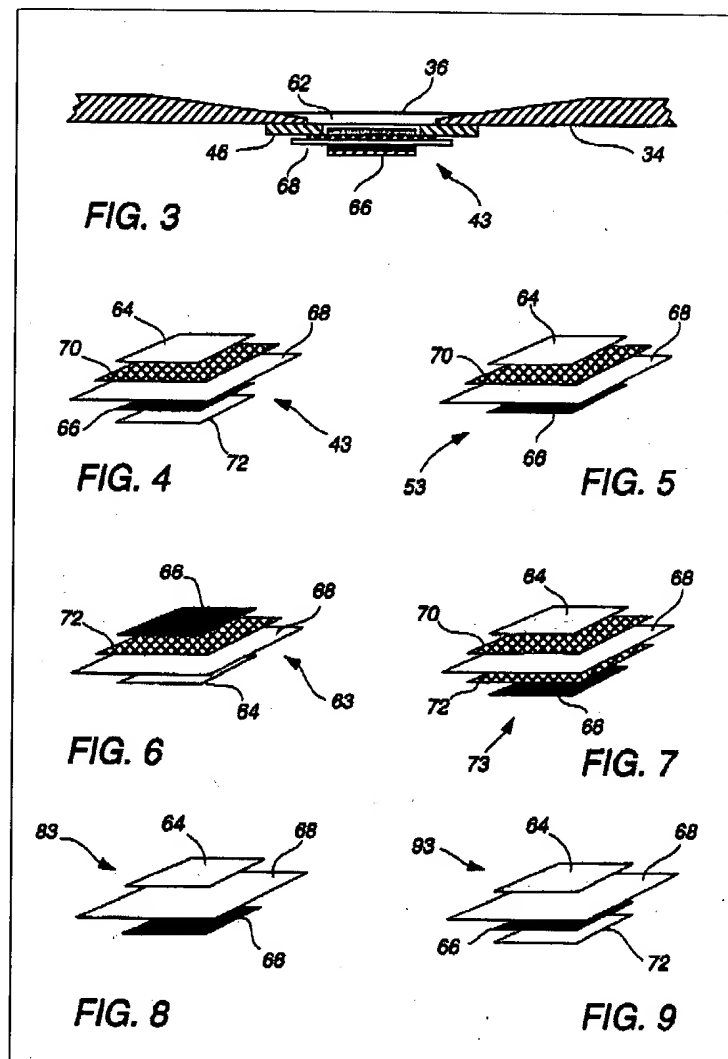
The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459

(1966), that are applied for establishing a background for determining obviousness under 35

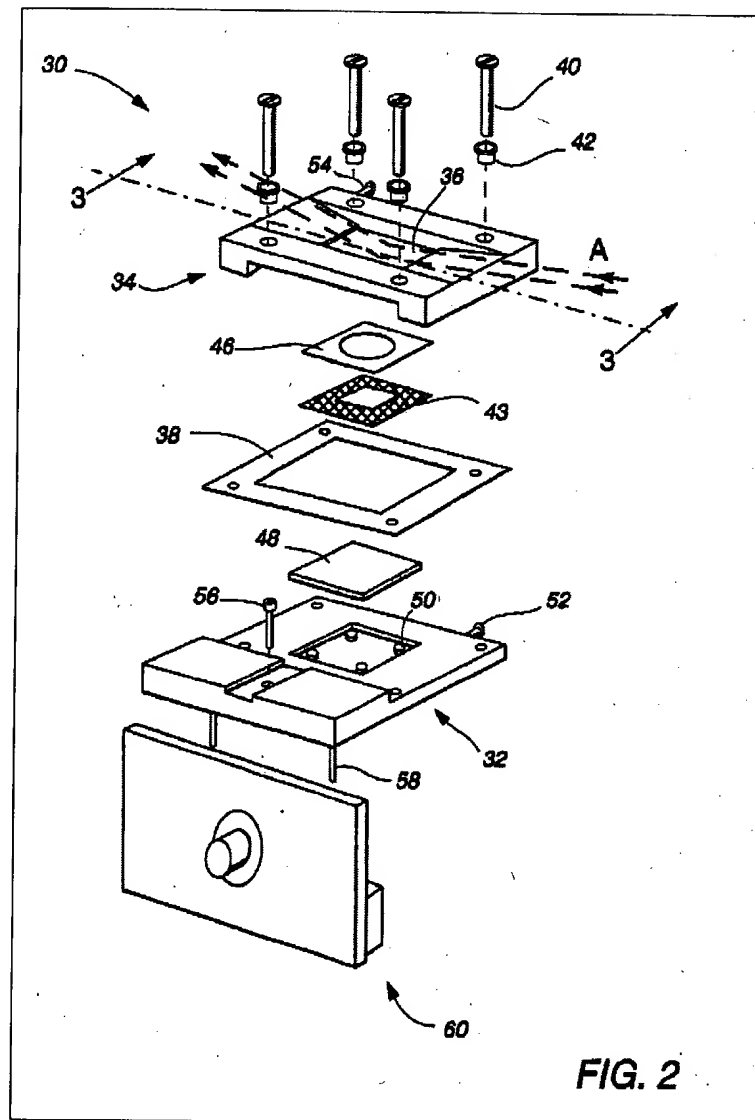
U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Amatucci *et al.* (U.S. Pat. No. 5,635,138 A) in view of Sugalski (U.S. Pat. No. 4,186,246). Amatucci *et al.* teach an apparatus for use in the *in situ* x-ray study of electrochemical cells. The rechargeable battery cell apparatus (43) comprises a positive electrode (64) and a negative electrode (66), an electrolyte/separator element (68) disposed between the two electrodes, and a current collector element (70) (see col. 7, lines 8 – 58; figures 3 – 9).



Amatucci *et al.* teach that the battery (43) is placed in the enclosure of cell holder (30), wherein the holder further comprises an x-ray transmissive window member (beryllium window 36) (see col. 6, lines 36 – 64; figure 2).



Amatucci *et al.* is silent to the specific teaching of hermetically sealing the apparatus components. As discussed above, Sugalski teaches a hermetically sealed electrochemical storage cell apparatus. Sugalski teaches that hermetically sealed or permanently fluid tight galvanic cells of the rechargeable type are in wide use (see col. 1, lines 1 – 24). Consequently, a person of ordinary skill in the art would have recognized the benefits and suitability of incorporating a hermetically sealed battery cell, as taught by Sugalski, with the electrochemical cell apparatus, as taught by Amatucci *et al.*, for the intended purpose of facilitating battery cell life and

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performance via the incorporation of an effective hermetic seal (see MPEP § 2144.07). Furthermore, the Courts have held that the prior art can be modified or combined to reject claims as *prima facie* obvious as long as there is a reasonable expectation of success. See *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986) (see MPEP § 2143.02). Accordingly, since Sugalski recognizes that the loss of electrolyte fluid in electrochemical cells is one of the most important factors of cell longevity and is a direct function of the effectiveness of the seal between parts of the cell casing, a person of ordinary skill in the art would have had a reasonable expectation of success of incorporating a battery cell enclosed by a hermetically sealed enclosure in order to prevent cell leakage and thereby increase battery cell performance (see col. 1, lines 1 – 50). Therefore, it would have been obvious to a person of ordinary skill in the art to provide an apparatus for *in situ* study of electrochemical cells, wherein the apparatus comprises a means for hermetically sealing and enclosing combined electrodes, a separator and electrolyte cell components in isolation from ambient atmosphere, wherein the enclosing means comprises an integral x-ray transmissive window member situated to allow incidence therethrough of radiation upon an electrode member site under study.

2. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Amatucci *et al.* in view of Sugalski, as applied to claim 1 above, and further in view of Gozdz (U.S. Pat. No. 6,413,667 B1). Amatucci *et al.* teach that the rechargeable battery cell structure (43) is configured by means of the lamination of electrode and electrolyte/separator cell elements, which are individually prepared, by coating, extrusion, or otherwise, from compositions comprising PVDF copolymer materials (see col. 7, lines 30 – 35). The cell assembly is formed via lamination of the component cell elements into a unitary flexible battery cell structure (see



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col. 7, lines 48 – 58). Amatucci *et al.* and Sugalski are both silent to the specific teaching having an enclosing means, which comprises an envelope of polymeric sheet material. Gozdz teaches a flat rechargeable electrochemical cell, wherein the cell structure is packaged in a hermetically sealed multilayer foil/polymer envelope (see col. 9, lines 46 – 62). Consequently, a person of ordinary skill in the art would have recognized the suitability of incorporating a hermetically sealed battery cell using an enclosing means comprising a polymeric envelope, as taught by Gozdz, with the electrochemical cell apparatus, as taught by Amatucci *et al.* in view of Sugalski, for the intended purpose of facilitating an effective hermetic seal for the battery cell components (see MPEP § 2144.07). Therefore, it would have been obvious to a person of ordinary skill in the art to utilize a lamination fabrication process for forming the claimed apparatus structure, as suggested by Amatucci *et al.*, and incorporating the use of a polymeric envelope sealing means for sealing the apparatus, as taught by Gozdz, in order to provide an effectively sealed battery cell structure further comprising a window, which would not be prone to leakage.

***Allowable Subject Matter***

Claims 2 – 4 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 2, the cited prior art neither teach or fairly suggest that the apparatus, as taught by either Sugalski, or Amatucci *et al.* in view of Sugalski, further comprises: a body providing a cylinder for receiving therein components of cell members; a sealing means surrounding the proximal end of the cylinder; a base plate providing a radiation access opening situated adjacent the cylinder proximal end and aligned concentrically therewith and within the circumference of the sealing means; a window member being situated intermediate the base plate and the sealing means and extending peripherally beyond the sealing means; means for removably affixing the base plate to the body and compressing the sealing means against the window to form a hermetic seal therewith; an adjustable means situated at the distal end of the cylinder for applying compressive force urging the combination of cell components toward contact with the window member; and means for hermetically sealing the cylinder distal end.

***Response to Arguments***

1. Applicant's arguments and amendments, filed 6/7/2004, with respect to the rejection of claim 5 under 35 U.S.C. 112, second paragraph, have been fully considered and are persuasive. This rejection of claim 5 has been withdrawn.
2. Applicant's arguments and amendments, filed 6/7/2004, with respect to the rejection of claim 1 under 35 U.S.C. 102(b) as being anticipated by Sugalski, have been fully considered and are persuasive. This rejection of claim 1 has been withdrawn.
3. Applicant's arguments and amendments, filed 6/7/2004, with respect to the rejection of claim 1 under 35 U.S.C. 103(a) as being unpatentable over Amatucci *et al.* in view of Sugalski have been fully considered, but they are not persuasive. The applicant essentially argues that neither of references teach or suggest a window integral with the enclosure. However, in response to the applicant's arguments against the references individually, the Courts have held that one cannot show nonobviousness by attacking references individually, where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Contrary to the implied assertions of the applicant, the examiner is not relying on the reference to Sugalski for the teachings of x – ray testing or the incorporation of a beryllium window with regards to electrochemical battery cells, but rather the reference to Amatucci *et al.* Sugalski does teach a hermetically-sealed or permanently fluid-tight cell structure in order to inhibit electrolyte loss, which is an important factor in cell longevity (see col. 1, lines 1 – 24). Consequently, a person of ordinary skill in the art would accordingly have generally recognized the benefit of utilizing a fluid-tight battery cell structure (see MPEP § 2144.07). Hence, the teachings of Sugalski are

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unequivocally suggestive to a person of ordinary skill in the art the use of a one-piece or integrated battery cell structure in providing a fluid-tight battery cell structure. As discussed in the rejection above, Amatucci *et al.* do teach that the battery cell (43) is placed in the enclosure of cell holder (30), wherein the holder further comprises an x-ray transmissive window member (beryllium window 36) (see col. 6, lines 36 – 64; figure 2). The Courts have held that the prior art can be modified or combined to reject claims as *prima facie* obvious as long as there is a reasonable expectation of success. See *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986) (see MPEP § 2143.02). As previously indicated by Sugalski, a person of ordinary skill in the art would have had a reasonable expectation of success of utilizing a fluid-tight or integrated battery cell structure. In addition, the Courts have held that the use of a one-piece, integrated construction, instead of the structure disclosed or taught in the prior art, would have been within the ambit of a person of ordinary skill in the art. See *In re Larson*, 340 F.2d 965, 968, 144 USPQ 347, 349 (CCPA 1965). Hence, the preponderance of evidence indicates that the use of a hermetically-sealed, integrated battery cell structure is obvious to a person of ordinary skill in the art. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992) (see MPEP § 2142). Therefore, it would have been obvious to a person of ordinary skill in the art to incorporate the use of an integrated x-ray window with the enclosing system of Amatucci *et al.*

4. Applicant's arguments and amendments, filed 6/7/2004, with respect to the rejection of claim 5 under 35 U.S.C. 103(a) as being unpatentable over Amatucci *et al.* in view of Sugalski, and further in view of Gozdz have been fully considered, but they are not persuasive. The applicant did not provide any pertinent evidence in rebuttal to this rejection. The applicant

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merely asserts that Gozdz is cited only for the use of a polymeric battery enclosure, and does not remedy the deficiencies of Amatucci *et al.* and Sugalski. An argument does not replace evidence, where evidence is necessary (see MPEP § 2145). The Courts have held that the arguments of counsel cannot take the place of evidence in the record. See *In re Schulze*, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965); & *In re Geisler*, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997). Furthermore, with respect to the applicant's assertions that none of the individual references neither teach nor suggest a test device having an enclosure with an integral x-ray window, the Courts have held that one cannot show nonobviousness by attacking references individually, where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The Courts have held that the rationale to modify or combine the prior art does not have to be expressly stated in the prior art; the rationale may be expressly or impliedly contained in the prior art or it may be reasoned from the knowledge generally available to one of ordinary skill in the art, established scientific principles, or legal precedent established by prior case law. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). For sources of rationale supporting an obviousness rejection under 35 U.S.C. 103, the rationale may be in a reference, or reasoned from common knowledge in the art, scientific principles, art-recognized equivalents or legal precedent (see MPEP § 2144). As discussed above, Amatucci *et al.* do teach that the rechargeable battery cell structure (43) is configured by means of the lamination of electrode and electrolyte/separator cell elements, which are individually prepared, by coating, extrusion, or otherwise, from compositions comprising PVDF copolymer materials (see col. 7, lines 30 – 35). The cell assembly is formed via lamination of the component cell elements into a

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unitary flexible battery cell structure (see col. 7, lines 48 – 58). Amatucci *et al.* and Sugalski are both silent to the specific teaching having an enclosing means, which comprises an envelope of polymeric sheet material. Gozdz teaches a flat rechargeable electrochemical cell, wherein the cell structure is packaged in a hermetically sealed multilayer foil/polymer envelope (see col. 9, lines 46 – 62). Consequently, a person of ordinary skill in the art would accordingly have recognized the suitability of incorporating a hermetically sealed battery cell using an enclosing means comprising a polymeric envelope, as taught by Gozdz, with the electrochemical cell apparatus, as taught by Amatucci *et al.* in view of Sugalski, for the intended purpose of facilitating an effective hermetic seal for the battery cell components (see MPEP § 2144.07). Furthermore, as evidenced by Gozdz, a person of ordinary skill in the art would have had a reasonable expectation of success in the use of an enclosing means comprising a polymeric envelope with regards to battery cell structures. The Courts have held that the prior art can be modified or combined to reject claims as *prima facie* obvious as long as there is a reasonable expectation of success. See *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986) (see MPEP § 2143.02). Therefore, it would have been obvious to a person of ordinary skill in the art to utilize a lamination fabrication process for forming the claimed apparatus structure, as suggested by Amatucci *et al.*, and incorporating the use of a polymeric envelope sealing means for sealing the apparatus, as taught by Gozdz, in order to provide an effectively sealed battery cell structure further comprising a window, which would not be prone to leakage.

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***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Sines, Ph.D. whose telephone number is (571) 272-1263. The examiner can normally be reached on M-F (11 AM - 8 PM EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
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